Show

ROBOTIS e-Manual v1.31.00

ROBOTIS OpenCM IDE

Run the Program

If you run the program the following screen appears.

Menu : You can select from File, Edit, Sketch, Tools, and Help.

Toolbar : You can select from a list of shortcut icons of frequently used functions.

 Executes only the compilation and prints a message on the status bar or console stating whether it was fail or success

 Executes compilation and proceeds to download right away. Make sure the board is connected when using this function

 Creates a new file

 Opens a file

 Saves the current file

 Runs the serial monitor

Editor : This is the field where you edit the source.

Status Bar : This is the field where it shows the progress of the requested function visually.

Console : Shows the current cursor location's line number and the selected board and COM Port.

Tab Menu : This is the menu that you select when adding or removing a tab.

A Look at Some Examples

The ROBOTIS OpenCM IDE provides some simple examples of functions provided by the OpenCM hardware board, and you can check the File (e.g.)Examples menu to see the various examples shown below.
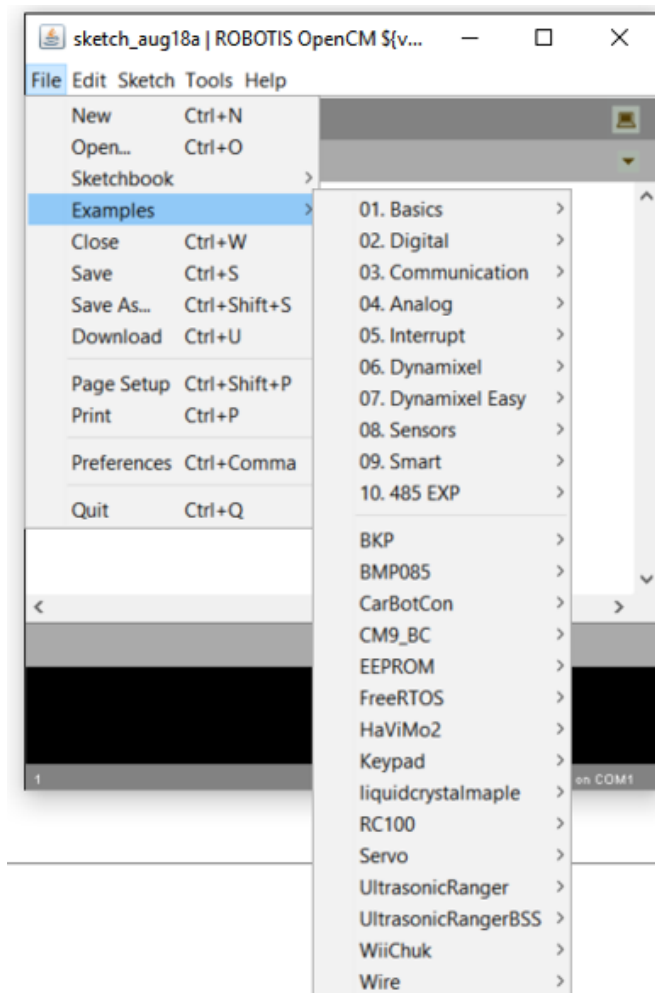
Code Editing Function

1. Auto Highlight Function

When typing code, registered keywords will be highlighted in yellow or blue automatically (as opposed to the usual black) as shown below.

Registered API will change colors as shown below, so that you can check if the name of the API you are trying to use is typed correctly.
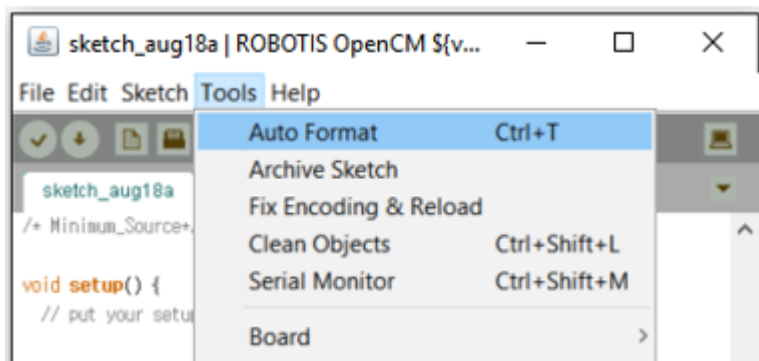
<Image 2.5.3-1>

You can also modify or add to the Auto highlight function at any time in the keyword.txt file located in the directory below.

<Image 2.5.3-2 keyword.txt file location and content>
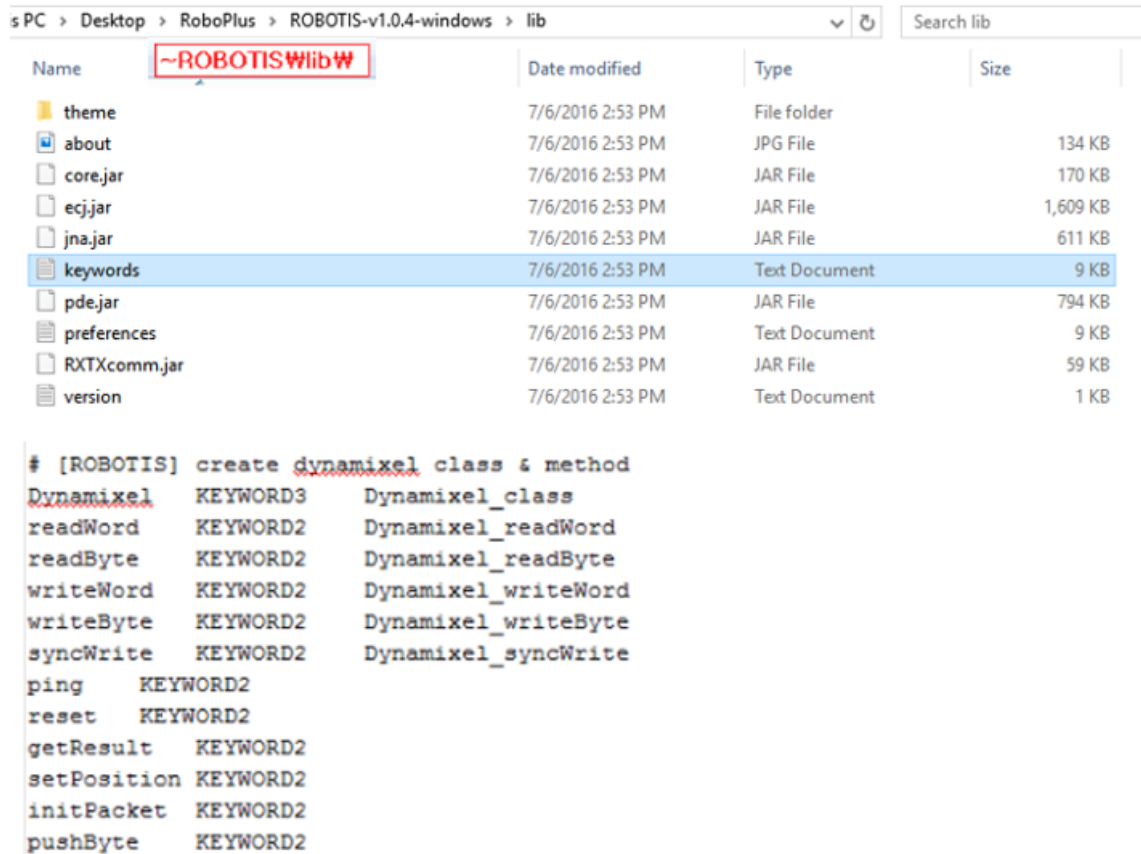
2. Using the Auto Format Function

By using the function in Tools → Auto Format, codes that have been typed jumbled or messy are automatically organized neatly.

<Image 2.5.3-4>

Codes such as below are automatically organized neatly by pressing Ctrl+T.

```
void loop() {
  //print "Hello World!!" to PC though USB Vi
    SerialUSB.println("Hello World!!");
  SerialUSB.print("nCount : "); // display
        SerialUSB.println(nCount++);//Seria

  delay(1000);
}
```
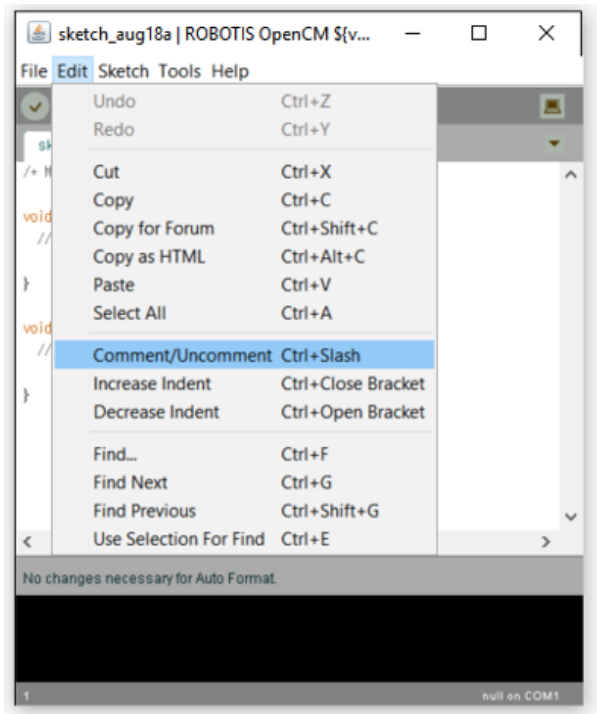


```
void loop() {
  //print "Hello World!!" to PC though USB Virtual COM
  SerialUSB.println("Hello World!!");
  SerialUSB.print("nCount : "); // display nCount var
  SerialUSB.println(nCount++);//SerialUSB.print("\r\r

  delay(1000);
}
```

<Image 2.5.3-4>

3. Adding and Removing Comments

Select Edit → Comment/Uncomment as shown below or press the hotkey Ctrl+/ to comment the entire line, and press the hotkey again to uncomment the line.

<Image 2.5.3-5>

<Image 2.5.3-6>

If you select a block as shown above and then press Ctrl+/ it will comment the entire block as shown below.

<Image 2.5.3-7>

If you press Ctrl+/ again it will uncomment the selected lines.

4. Increase and Decrease Indent

If you select Edit → Increase Indent/Decrease Indent you can control the indentation level from the current cursor. You can also press the hotkeys Ctrl+} to move one tab to the right, or press Ctrl+} to move one tab to the left.
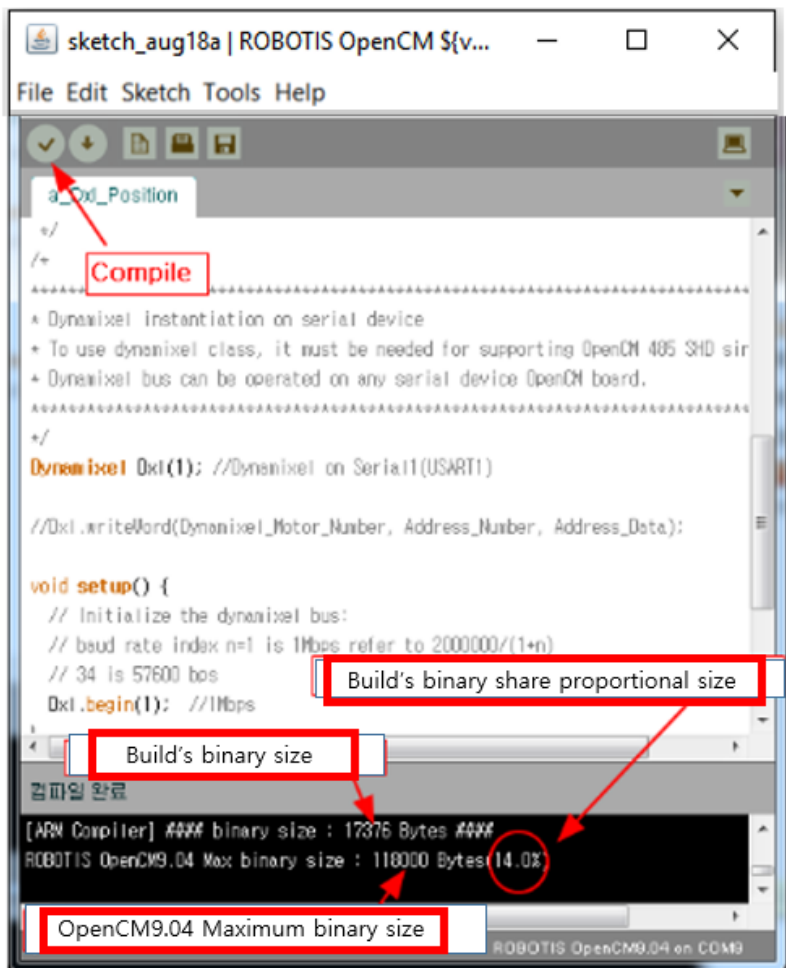
<Image 2.5.3-8>
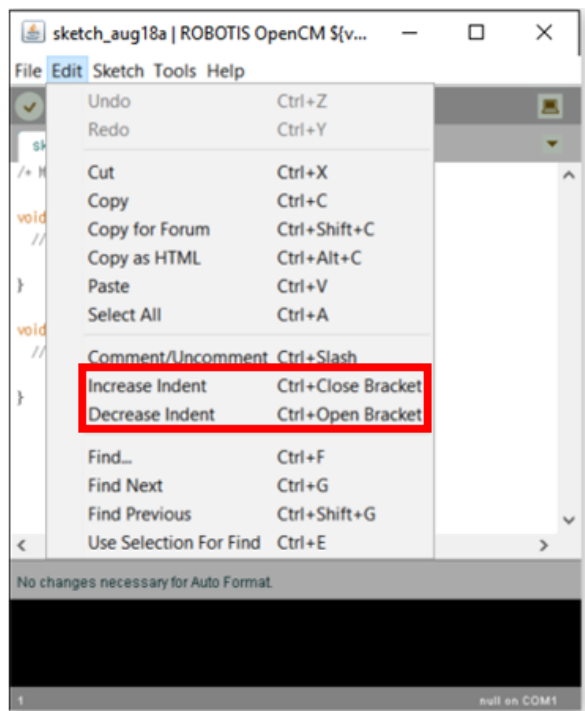
Pressing Ctrl+} repeatedly will move the cursor to the right one tab at a time as shown below.

```
void loop() {
        digitalWrite(BOARD_LED_PIN, HIGH);
        delay(1000);          // Wait for 1 second (1000 milliseconds)
        digitalWrite(BOARD_LED_PIN, LOW);
        delay(1000);          // Wait for 1 second (1000 milliseconds)
}
```

<Image 2.5.3-9>

Compile and Download

After you write your code it is useful when programming to use the Compile menu in order to check that the code you wrote is grammatically correct and has no errors.
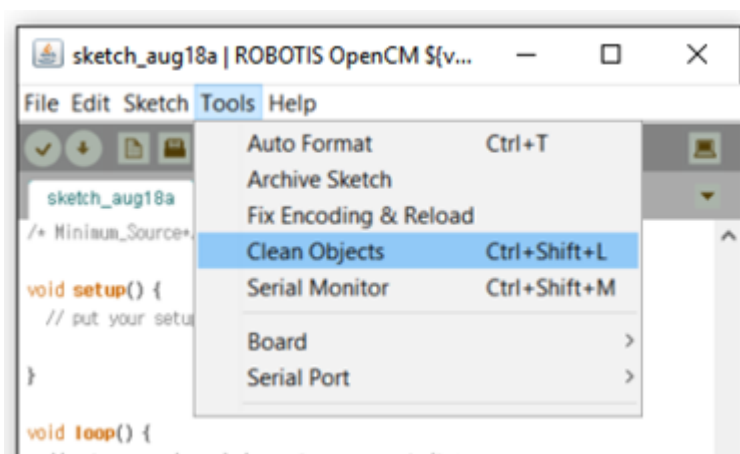
<Image 2.5.4-1>

<If the build is successful then in the status window below in the build's binary size section it will show the maximum binary size, and the share proportional to the size as 0%.>

If you have modified the codes in the Core directory shown below, you must delete the Object files that were previously created.
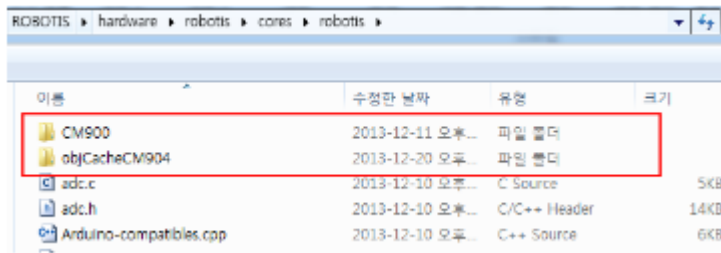
ROBOTIS\hardware\robotis\cores\robotis

Do this by selecting the Tools → Clean Objects menu and then build again. It will take a long time to build the first time, but from the second time on it will be fast again since it will reuse the Object files from the first build.
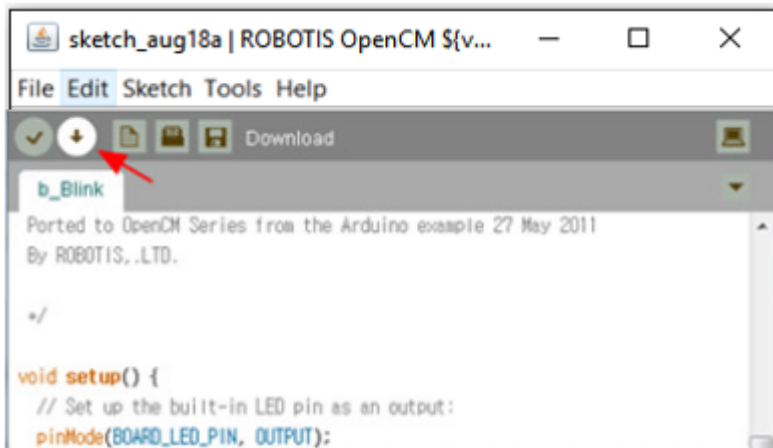

<Image 2.5.4-3>

The Object files are saved in each corresponding board directory inside the Core directory shown below.
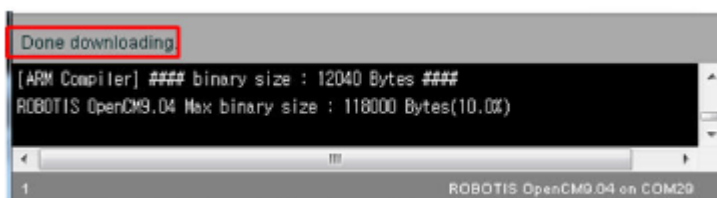
<Image 2.5.4-4>

If the whole code is compiled properly with no errors you can now download. Simply click on the down arrow and it will compile and download all at once.
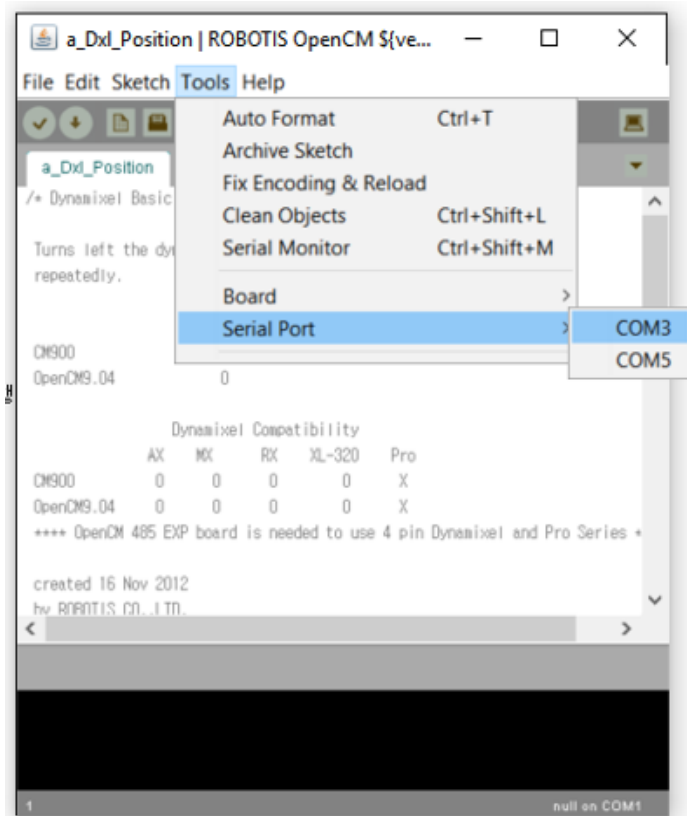

<Image 2.5.4-5>

When the download finishes successfully there will be a message that says Done downloading in the status bar and the downloaded code will be executes directly in OpenCM9.04.


<Image 2.5.4-6>

Using the Serial Monitor

ROBOTIS OpenCM provides a terminal program, similar to Windows's hyper terminal or TeraTerm, by default as an Add-on program.
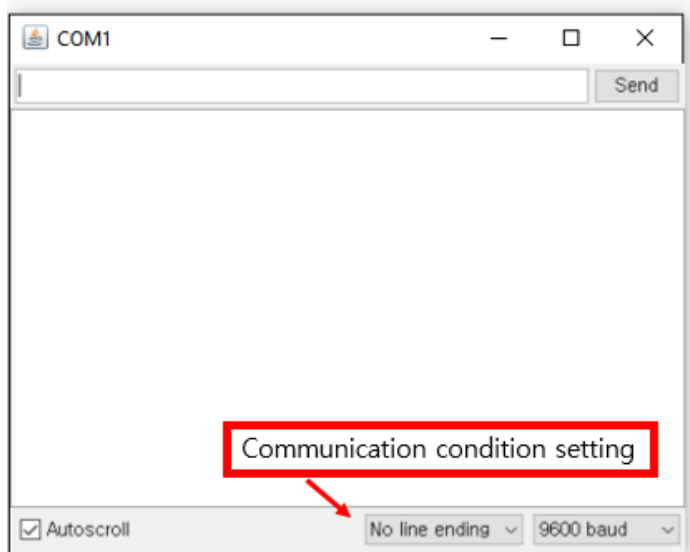
<Image 2.5.5-1>

If you wish to communicate with the selected COM1 port then click on the serial monitor icon located on the upper-right side of the toolbar to open the serial monitor. You can also use the hotkey Ctrl + Shift + M to open the serial monitor.

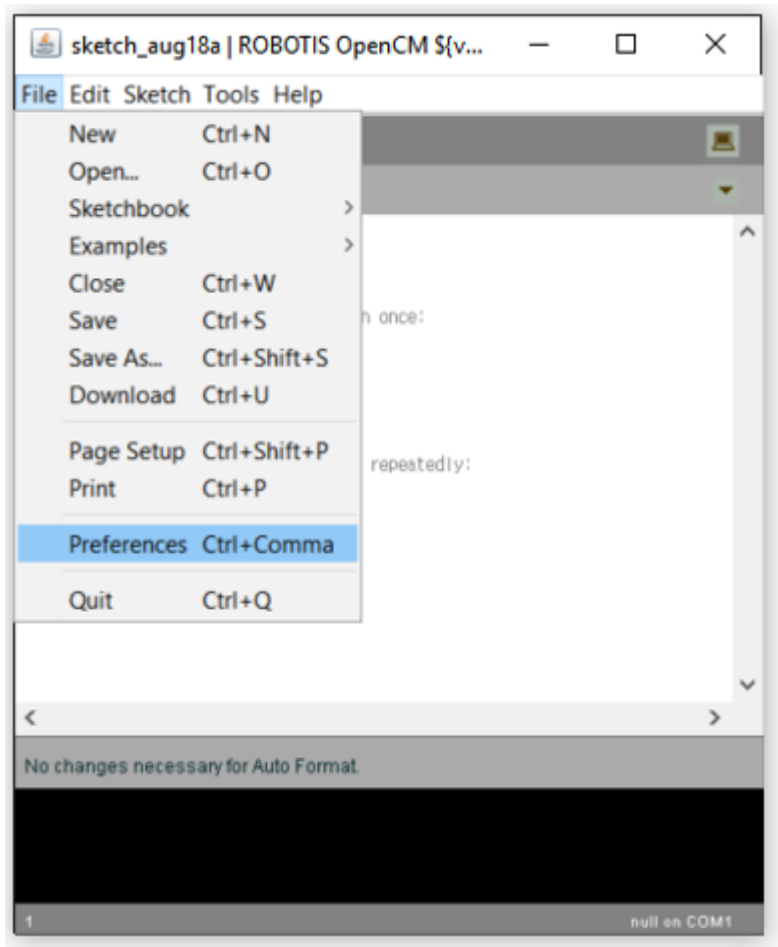<Image 2.5.5-2>

<Image 2.5.5-3>
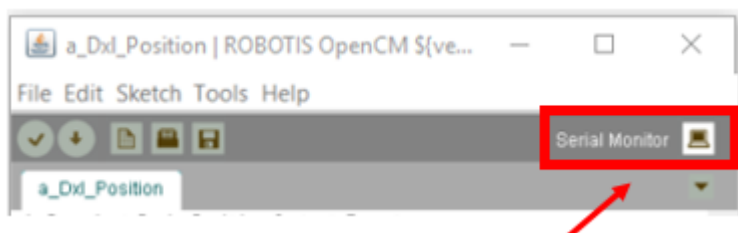
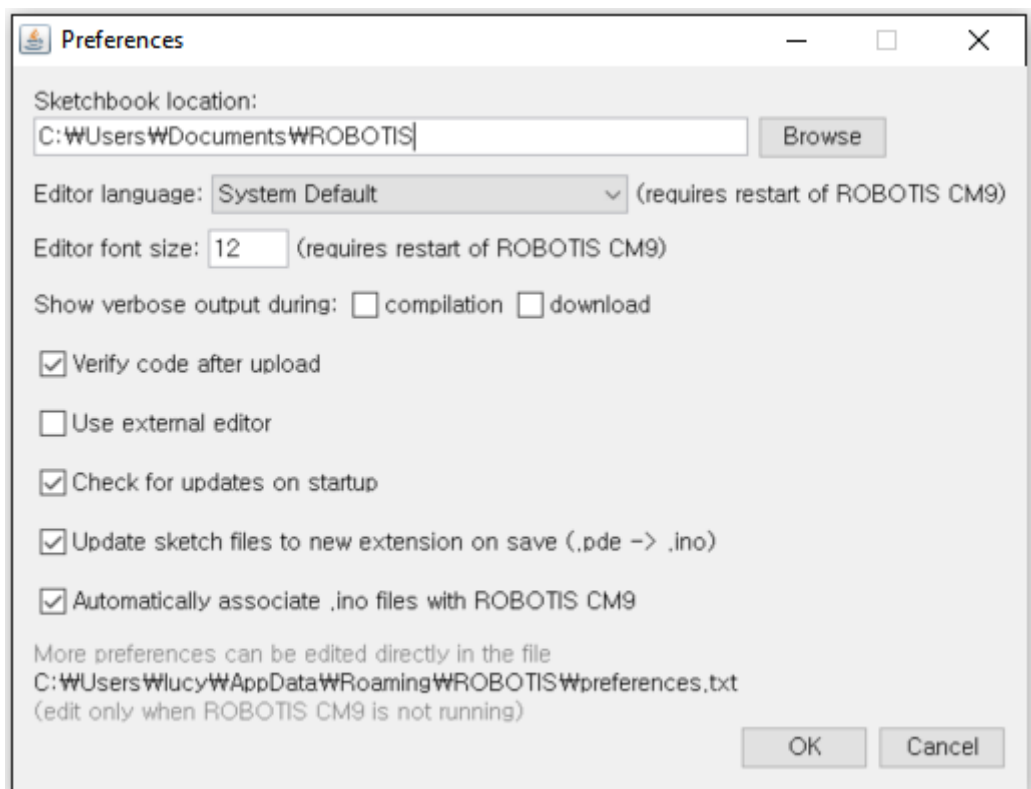## Precautions Regarding the Serial Monitor

When OpenCM9.04 is downloading, USB communication will not be available. Do not open the serial monitor when downloading is in progress.

(If it is a different COM port then it does not matter.)

Preferences

Manage your settings preferences in File → Preferences.
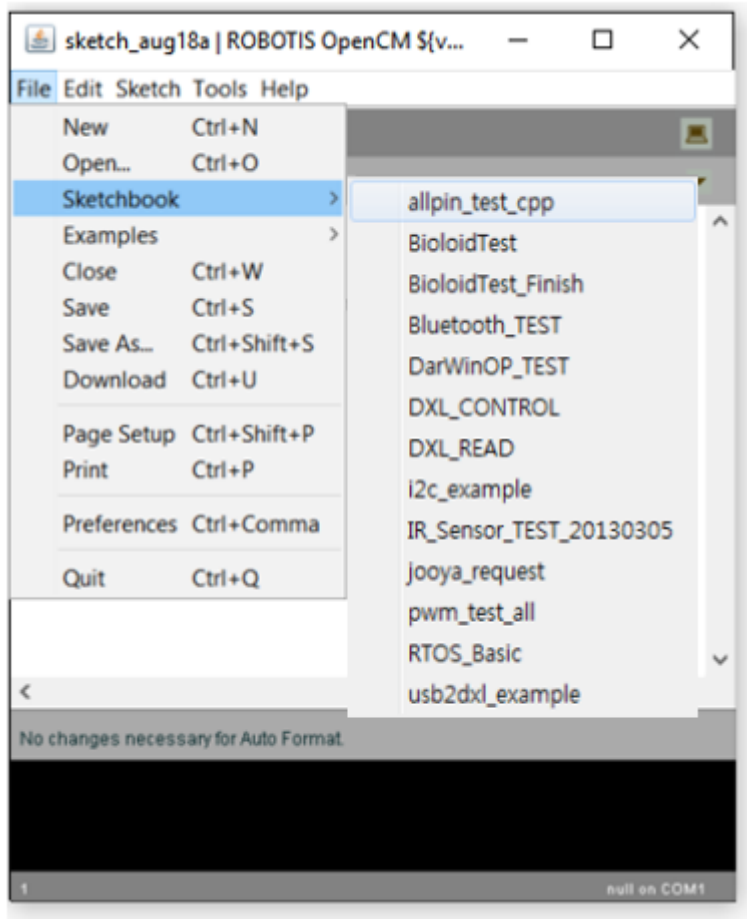

<Image 2.5.6-1>

<Image 2.5.6-2>

i. Sketchbook location : This is the user's default work directory. Sketch files will be saved and opened from this directory.

<Image 2.5.6-3>

ii. Editor language: This changes the font of the program to a different language.

<Image 2.5.6-4>

iii. Show verbose output during : If you check Compilation then it will show a detailed output during the compilation process.

If you check Download then it will show a detailed output of the download process, after the compile has finished.

Compile and download can become slower when using this option, so we recommend you do not use it unless it is essential to use it.